

REMARKS

Claims 1, 20, 39, and 45 have been amended and claims 14-19, 33-38, 40-44 and 46-47 have been cancelled without prejudice to merely expedite prosecution. No new matter is introduced by the amendments of these claims. The amendments are supported by original claims 14 and 33, among other places. Accordingly, claims 1-13, 20-32, 39, and 45 remain pending.

The abstract has been amended to comply with the formatting requirements as outlined by the Examiner.

The Examiner has rejected claims 1-4, 13, 15-16, 19-23, 32, 34-35, 38-41, and 44-47 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner asserts that applicant is improperly using the terms “spoof”, “encapsulate”, and “cracking” contrary to their ordinary meanings. These rejections are respectfully traversed.

It is submitted that the terms “spoof”, “encapsulate”, and “cracking” are being used in the specification and claims in a manner accepted in the routing and packet processing industry. For instance, the term “spoofing” is not necessarily related to illegal entry into a system, but can mean merely to mimic a server. Throughout Cisco System’s website, the term spoofing is used merely to “mimic” a server. Specifically, at Cisco’s URL:

http://www.cisco.com/en/US/products/sw/conntsw/ps491/products_configuration_guide_chapter_09186a00801cc945.html#1038048,

the following text refers to “spoofing” as being a mechanism used by a proxy server to mimic a server (emphasis added):

1.1. Configuring IP Spoofing in Reverse Proxy Mode

With typical reverse proxy caching, a user issues an HTTP request from a web browser. This request is transparently intercepted at the service provider or data center and redirected to the Content Engine by a WCCP-enabled router. The Content Engine accepts the incoming TCP connection from the router, determines that the request is for an object not in storage (cache miss), and issues a request for the object from the origin web server. When the Content Engine contacts the origin web server, it uses the Content Engine's own IP address instead of the client's IP address, on behalf of which the Content Engine is making the request.

In contrast, with IP spoofing, the transparent redirection process can enable the Content Engine to send out the client's IP address for authentication purposes on the origin web servers. You can enable IP spoofing with the wccp spoof-client-ip

enable global configuration command. You can disable IP spoofing with the **no wccp spoof-client-ip enable** command.

Additionally, the term “encapsulate” does not necessarily include making the data and processing within the object private, but can merely mean to prepend a new source or destination address header. For example, a the Cisco URL:

http://www.cisco.com/en/US/products/hw/routers/ps133/products_configuration_guide_chapter09186a008019c746.html#999906

the following definition for encapsulation is used:

The technique used by layered protocols in which a layer adds header information to the protocol data unit (PDU) from the layer above.

Finally, the term “cracking” can merely indicate removing such encapsulation header and does not necessarily include “breaking into a computer system.” For example, the online dictionary at URL “<http://www.bartleby.com/61/70/C0717000.html>” defines the term “crack” as simply breaking apart.

For the forgoing reasons, it is respectfully submitted that the claims meet the requirements of 35 U.S.C. §112, second paragraph.

The Examiner rejected claims 1-2, 5-11, 14, 20-21, 24-30, 33, 39, and 45 under 35 U.S.C. §102(e) as being anticipated by Mogul (U.S. patent 6,097,882). The Examiner has also rejected claims 15-19, 34-38, 40-44, 46, and 47 under 35 U.S.C. §102(e) as being anticipated by Albert (U.S. patent 6,606,315). However, claims 15-19, 34-38, 40-44, 46, and 47 have been canceled to expedite prosecution of the remaining claims and the cited reference Albert is rendered moot. The Examiner has also rejected claims 3, 4, 13, 22, 23, and 32 under 35 U.S.C. §103(a) as being unpatentable over Mogul in view of Nilakanta et al. (US 5,541,911). Additionally, claims 12 and 31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Mogul. The Examiner’s rejections are respectfully traversed as follows.

Claim 1 is directed towards a method “of facilitating redirection of traffic between a server and a client to between the client and a nearest replica selected from a plurality of replicas.” Claim 1 also requires “receiving a packet that is traveling between a client and a server or between the client and a replica” and “when the received packet is a start packet that is traveling from the client to the server, altering the start packet to indicate that the start packet should be forwarded to any replica that duplicates the data content of the server.” Claim 1

further recites that “when the received packet is an acknowledgement packet that is received first in response to the forwarded start packet, altering the acknowledgement so that it spoofs the server when the acknowledgement originates from the replica” and “when the received packet is an acknowledgement that is not received first in response to the forwarded start packet, sending a reset to the replica or the server identified as a source of the received packet.” In other words, only the first received acknowledgement that is in response to the start packet is altered to spoof the server. Acknowledgements which are received after the first acknowledgement packet result in a reset being sent back to the sender of such subsequent acknowledgement packet. Consequently, the fastest responding (and probably closest) replica is only altered to spoof the server, which allows for the most efficient replica to be utilized. Finally, claim 1 requires that “when the received packet is a subsequent packet received after the start packet and the acknowledgement packet, altering the subsequent packet so that it spoofs the server when the subsequent packet originates from the replica or altering the subsequent packet so that it goes to the replica when the subsequent packet originates from the client.” Independent claims 20, 39, and 45 have a similar limitation regarding handling of first received and subsequent received acknowledgement packets.

The primary reference Mogul merely discloses a system for sending packets to a plurality of replicas. Mogul specifically describes a “transparent replica 10” which “sits between the server replicas 20 and 22 and their clients 12, 14, and 16.” See Col. 3, Lines 10-11. When a packet is received at the transparent replica, the transparent replica merely determines to which replica to send the packet. See Col. 3, Lines 23-29. The transparent replica then makes a notation in a table, alters the packet, and then forwards the altered packet to the selected replica. See Col. 3, Lines 30-36. When a response is received back from the selected replica, the transparent replica then alters the response packet so it appears to originate from the original server destination specified by the client in the original request packet. See Col. 3, Lines 42-51. Finally, when the connection between a client and the selected replica is terminated, the corresponding entry for the selected and disconnecting replica is removed from the transparent replica’s table. See Col. 3, Lines 52-55. In other words, since the Mogul selects a single replica for sending the initial request from the client, the reference Mogul is only dealing with response packets from a single replica. Accordingly, Mogul fails to teach or suggest any mechanism for handling acknowledgement packets which are not received first in response to a start packet. Thus, Mogul does not provide any mechanism for achieving the goal of using the fastest responding replica, in the manner claimed. The secondary reference Nilakanta also fails to teach or suggest such limitation. Accordingly, claims 1, 20, 39, and 45 are patentable over the cited references.

The Examiner's rejections of the dependent claims are also respectfully traversed. However, to expedite prosecution, all of these claims will not be argued separately. Claims 2-6, 10-19, 41-46, and 48-52 each depend directly from independent claims 1, 20, 39, or 45 and, therefore, are respectfully submitted to be patentable over cited art for at least the reasons set forth above with respect to claims 1, 20, 39, and 45. Further, the dependent claims require additional elements that when considered in context of the claimed inventions further patentably distinguish the invention from the cited art.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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